
Plaintiff Kewazinga Corp.'s Claim Construction Presentation

Case No. 1:20-cv-01106-LGS

February 16, 2021

Claim Construction Hearing

- Claim Terms at Issue
- Law on Claim Construction
- Background on Asserted Patents
- “Array of Cameras”
- “Mosaicing”

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Disputed Claim Terms

- **“Array of Cameras”**

- U.S. Patent No. 6,535,226 (“‘226 Patent”), claims 55 and 119
- U.S. Patent No. 6,522,325 (“‘325 Patent”), claims 1, 5, 6, 10, 14, 15, and 29

- **“Mosaicing”**

- ‘325 Patent, claims 1, 5 and 6
- Claim phrases containing the root word “mosaic”

Claim Phrases Containing the Root Word “Mosaic”

- Parties agree these claim phrases are to be construed in accordance with the construction of the term “mosaicing,” which is disputed:
 - **“mosaic imagery”** – U.S. Patent No. 9,055,234 (“‘234 Patent”), claims 1, 3, 13, and 16
 - **“mosaic images”** – ‘325 Patent, claim 6
 - **“generate mosaic imagery”** – ‘234 Patent, claim 1
 - **“mosaic imagery along the [first] [second] view”** – ‘234 Patent, claim 1
 - **“mosaic imagery of progressively different locations along the [first] [second] view”** – ‘234 Patent, claim 13
 - **“mosaicing the selected outputs of cameras in the [first] [second] path”** – ‘325 Patent, claim 1
 - **“sequentially mosaicing the selected outputs of cameras in the [first] [second] path”** – ‘325 Patent, claim 1
 - **“mosaicing the image of a current camera in the sequence to the image of a next camera in the sequence”** – ‘325 Patent, claim 5
 - **“mosaicing the first image with the second image and then mosaicing the second image with the third image”** – ‘325 Patent, claim 6

The Court Should Adopt Kewazinga's Proposed Constructions

| Kewazinga's Proposed Constructions | Google's Rebuttal |
|--|---|
| <ul style="list-style-type: none">• Supported by the intrinsic evidence• Supported by competent expert testimony• Consistent with the <i>Microsoft</i> court's rationale | <ul style="list-style-type: none">• Mischaracterizes the intrinsic evidence• No expert testimony• Mischaracterizes the <i>Microsoft</i> court's rationale |

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Claim Terms are Generally Given Their Ordinary Meaning

- “[T]he words of a claim ‘are generally given their **ordinary and customary meaning**’” – *i.e.*, “the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005).
- “The inquiry into how a person of ordinary skill in the art understands a claim term provides an **objective baseline** from which to begin claim interpretation.” *Id.* at 1313.

Claim Terms Get the Full Scope of the Ordinary Meaning Unless Redefined or Disavowed

- “The patentee is free to choose a broad term and expect to obtain the **full scope of its plain and ordinary meaning unless [i] the patentee explicitly redefines the term or [ii] disavows its full scope.**” *Thorner v. Sony Computer Entm't Am. LLC*, 669 F.3d 1362, 1367 (Fed. Cir. 2012).
- “To act as its own lexicographer, a patentee must ‘**clearly set forth a definition of the disputed claim term**’ other than its plain and ordinary meaning.” *Id.* at 1365.
- “Mere **criticism of a particular embodiment** encompassed in the plain meaning of a claim term is **not sufficient** to rise to the level of clear disavowal. ... It is likewise **not enough that the only embodiments, or all of the embodiments, contain a particular limitation.**” *Id.* at 1366.
- “To constitute disclaimer, there must be a **clear and unmistakable disclaimer.**” *Id.* at 1366-67.

Claims are Not Limited to Disclosed Embodiments

- “**The specification need not describe every embodiment** of the claimed invention and **the claims should not be confined to the disclosed embodiments**—even when the specification discloses only one embodiment.” *Woods v. DeAngelo Marine Exhaust, Inc.*, 692 F.3d 1272, 1283 (Fed. Cir. 2012).
- “[A]lthough the specification often describes very specific embodiments of the invention, we have repeatedly **warned against confining the claims to those embodiments.**” *Phillips*, 415 F.3d at 1313.

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- **Background on Asserted Patents**
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Background on the Asserted Patents

- The Asserted Patents are directed to telepresence systems and methods that enable multiple users to smoothly navigate imagery along a path through a remote environment, simultaneously and independently of one another.

(‘234 Patent at 1:29-30, 3:8-32; ‘325 Patent at 1:19-21, 2:66-3:23; ‘226 Patent at 1:14-16, 2:64-3:16)

- Three aspects of certain embodiments:
 - Image capture
 - Image storage
 - User navigation

Image Capture and Storage

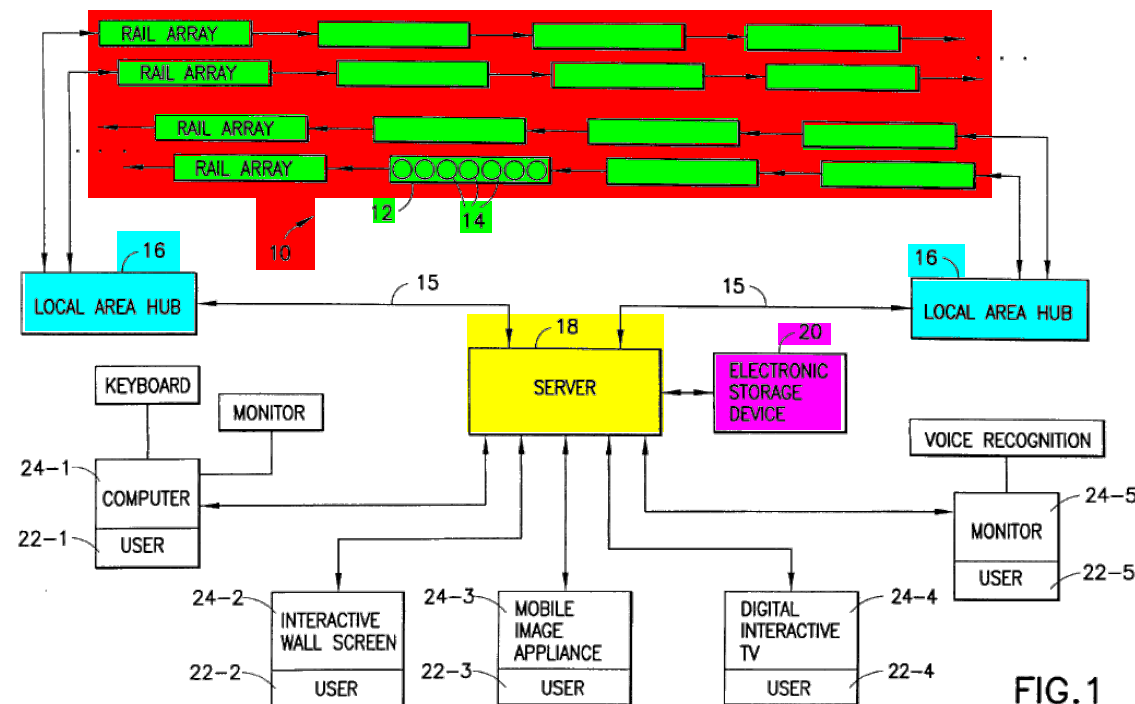
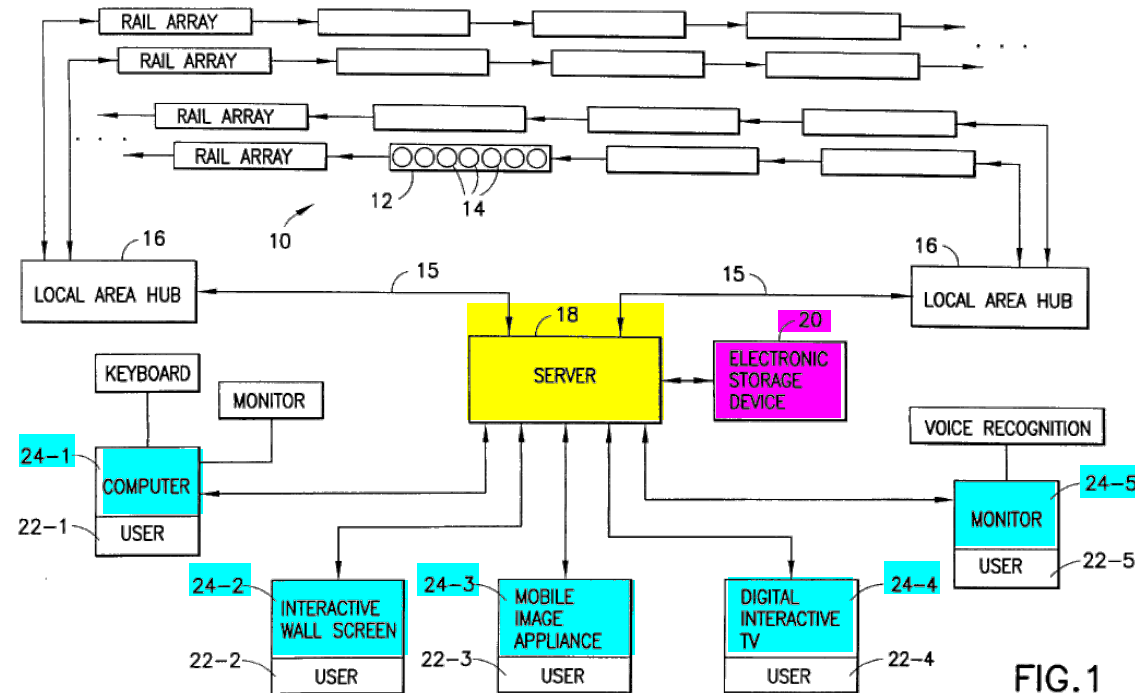


FIG. 1

- Array 10 comprises a plurality of sub-arrays (here called “rail array[s]”)
- Each rail array 12 includes cameras 14
- Images from cameras 14 are coupled to the server 18 by means of local area hubs 16
- Images from cameras 14, in turn, are stored as nodes in electronic storage device 20

(‘325 Patent at 5:19-39)

User Navigation



- Users operating user interface devices (with displays 24) send navigation commands to server 18
- Server 18, in turn, provides imagery from nodes in electronic storage device 20 allowing users to navigate through the environment
- Server 18 and/or user interface devices 24 process the imagery to, for example, smooth navigation

('325 Patent at 5:54-56, 5:67-6:2)

Users Simultaneously and Independently Navigate Captured Images

- Users navigate by switching between sequences of captured images.
 - “[T]he System allows the viewer to **float between a multiplicity of microcamera outputs** in a way that, **via electronic switching (and thus movement through the array)**, merges their fields of view into a seamless motion path.” (‘226 Patent at 4:26-29)
 - “[E]ach user enters inputs to generally **select which camera outputs** are transferred to the user display device.” (‘325 Patent at 6:19-23)
 - “Upon storing all of the outputs associated with the arrays 12-1 through 12-n, a user may navigate through the environment. **Navigation is effectuated by accessing the input of the storage nodes by a user interface device 24.**” (‘325 Patent at 19:64-67)
- Users do not navigate by physically moving or controlling a robotic camera.
 - That “which would immediately limit the number of viewers that could simultaneously control their own course and navigate via a given camera.” (‘226 Patent at 4:22-26)

Users Navigate by Moving Between Nodes to Access Captured Images

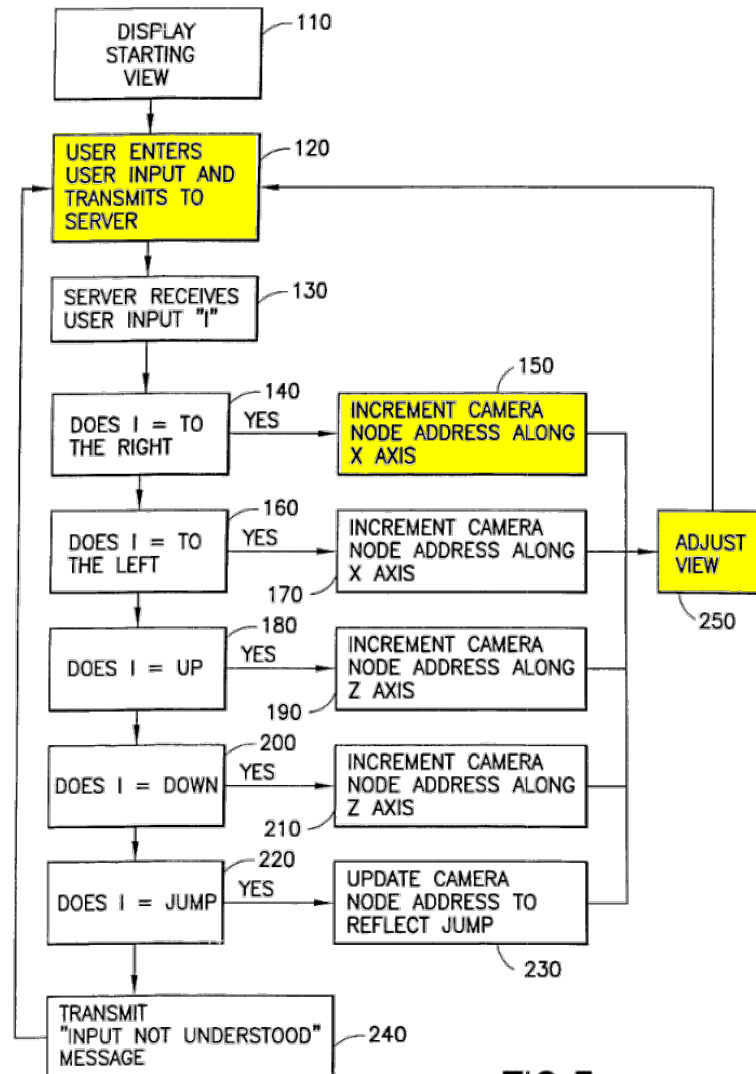


FIG.5

- Navigation is generally accomplished by incrementing or decrementing the node address based on user inputs for relative movement.
 - “When the user determines that they want to move or navigate through the array, **the user enters a user input** through the user interface device 24.” (‘325 Patent at 8:40-42)
 - For example, “[i]f the received user input does correspond to moving to the **right**, the **current node address is incremented along the X axis** in step 150 to obtain an updated address.” (‘325 Patent at 8:60-63)
 - “After **adjusting the current node address**, either by incrementing or decrementing the node address ... the server 18 proceeds in step 250 to **adjust the user’s view**.” (‘325 Patent at 9:43-46)

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Array of Cameras

| | Kewazinga's Proposed Construction | Google's Proposed Construction |
|---|--|--|
| array of cameras (‘226 Patent, claims 55, 119; ‘325 Patent, claims 1, 5, 6, 10, 14, 15, 29) | No construction is necessary. However, if the Court rules that one is necessary, Kewazinga proposes the following construction: <i>a camera configuration wherein the configuration can be created over time by moving cameras</i> | <i>a set of multiple cameras, each fixed in relation to each other</i> |

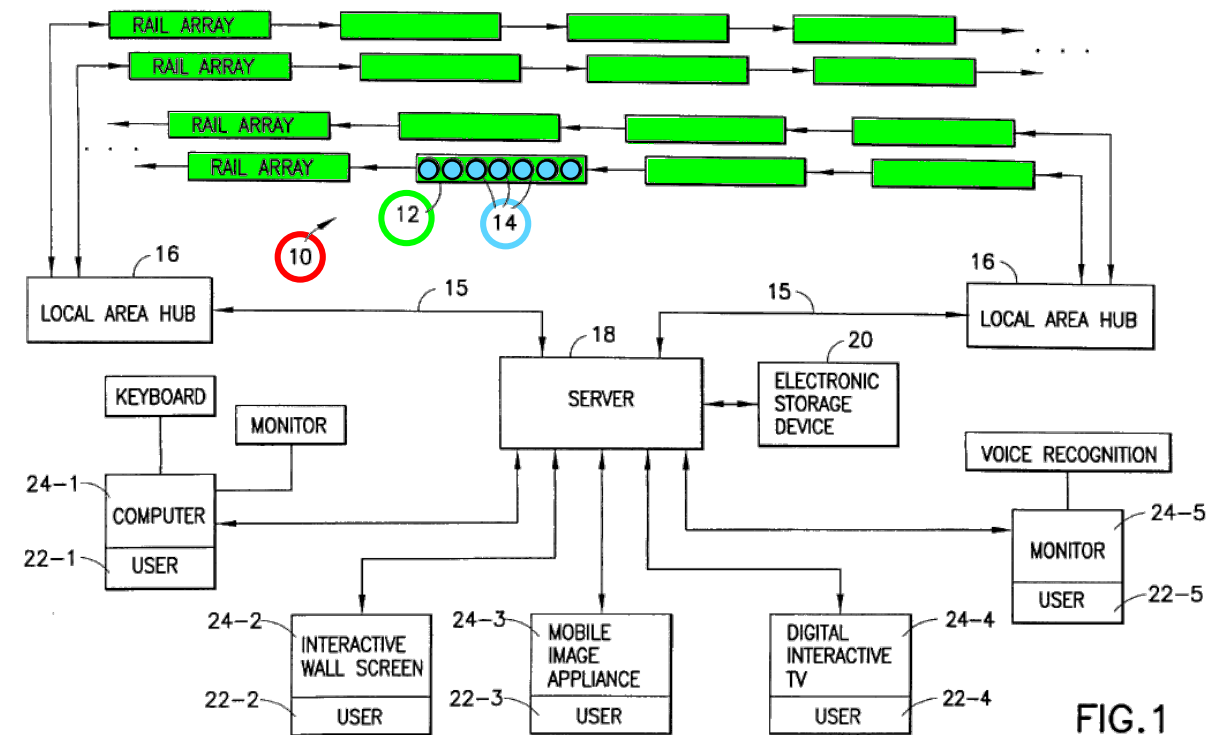
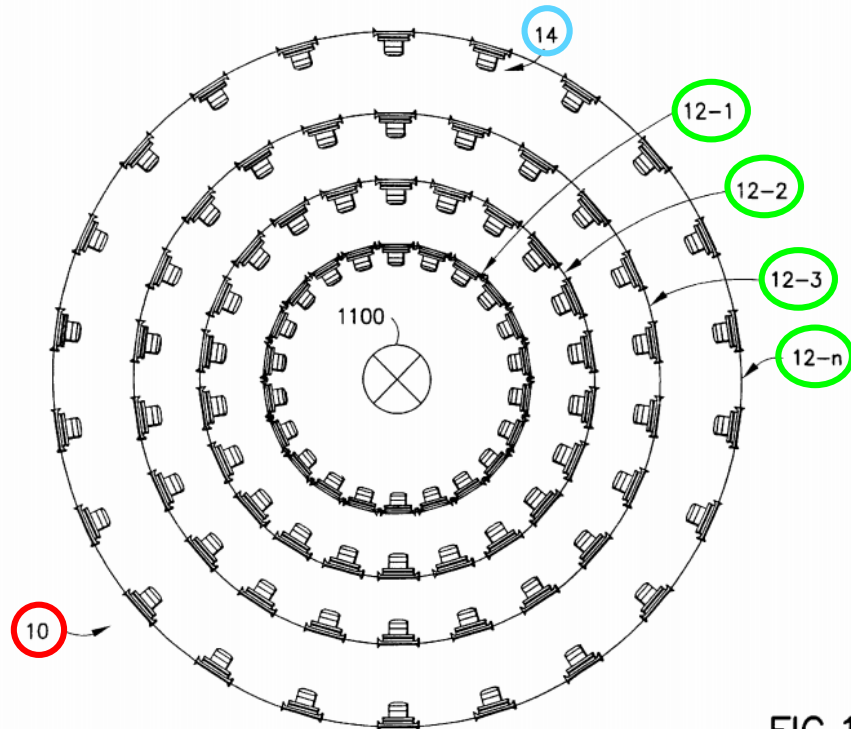
An Array of Cameras Captures the Sequences of Images for Navigation

- The purpose of the array of cameras is to capture sequences of images through an environment so users can access those images to navigate.
- An array of cameras can take many different forms to achieve this purpose.
 - An array of cameras is not limited to a specific structure or a single structure.
 - An array of cameras is not limited to fixed, stationary cameras; cameras can be moved into position to capture images.
 - An array of cameras can be comprised of multiple other arrays of cameras, *i.e.*, sub-arrays.
 - An array of cameras can be formed over time by moving cameras to different locations.

An Array of Cameras Can Take Many Different Forms

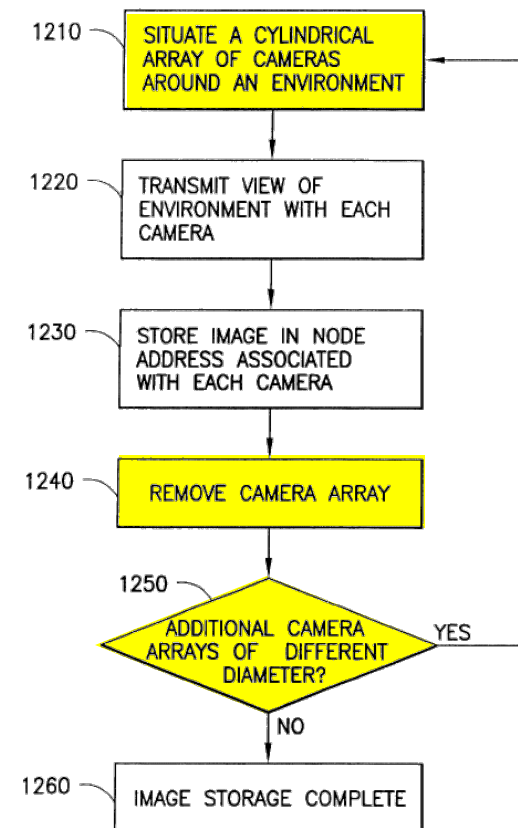
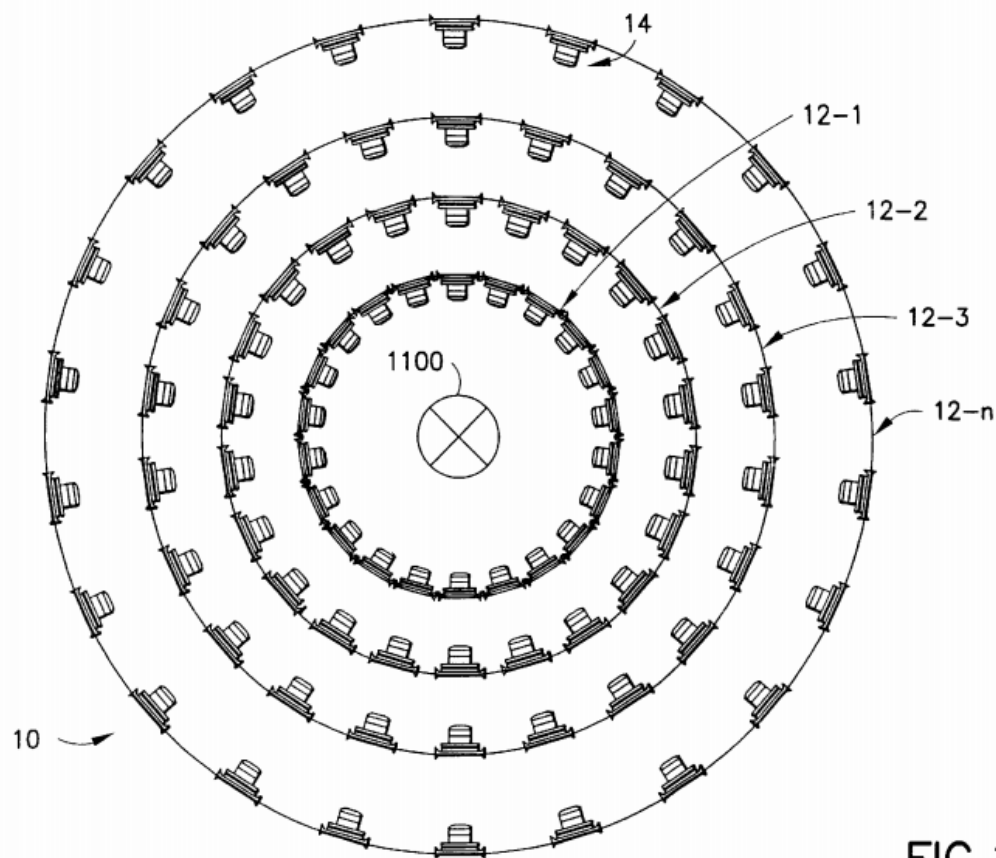
- An array of cameras is not limited to a specific structure or a single structure.
 - “[V]irtually any configuration of rails 12 and cameras 14 is within the scope of the present invention.” (‘325 Patent at 7:32-34)
 - “[T]he array 10 may be a linear array of cameras 14, a 2-dimensional array of cameras 14, a 3-dimensional array of cameras 14, or any combination thereof.” (‘325 Patent at 7:34-40)
 - “A POSITA would not understand that an ‘array of cameras’ must comprise a single structure, be it ring or rail....” *Kewazinga*, 2019 WL 3423352, *17 n.18.
- An array of cameras is not limited to fixed, stationary cameras; cameras can be moved into position to capture images.
 - “[A]rray 10 can be secured to a moveable frame that can be wheeled into position in the environment.” (‘325 Patent at 7:41-45)
 - Figure 11 embodiment

An Array of Cameras Can Be Formed Over Time by Moving Cameras



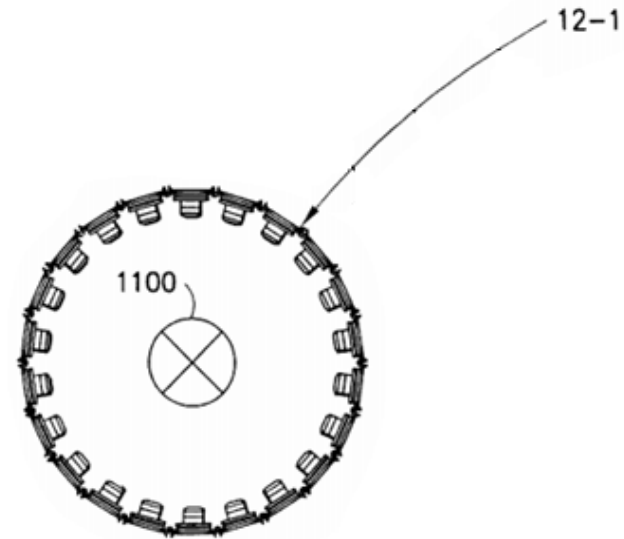
- Embodiment of Figures 11 and 12 is “described with respect to Fig. 11 and **continuing reference to Fig. 1.**” (‘325 Patent at 18:64-19:1)
- Figure 1 depicts a block diagram in which a single array of cameras is comprised of multiple “rail arrays.”
 - “The **array 10** comprises a plurality of **rails 12**, each **rail 12** including a series of **cameras 14.**” (‘325 Patent at 5:19-20)

An Array of Cameras Can Be Formed Over Time by Moving Cameras

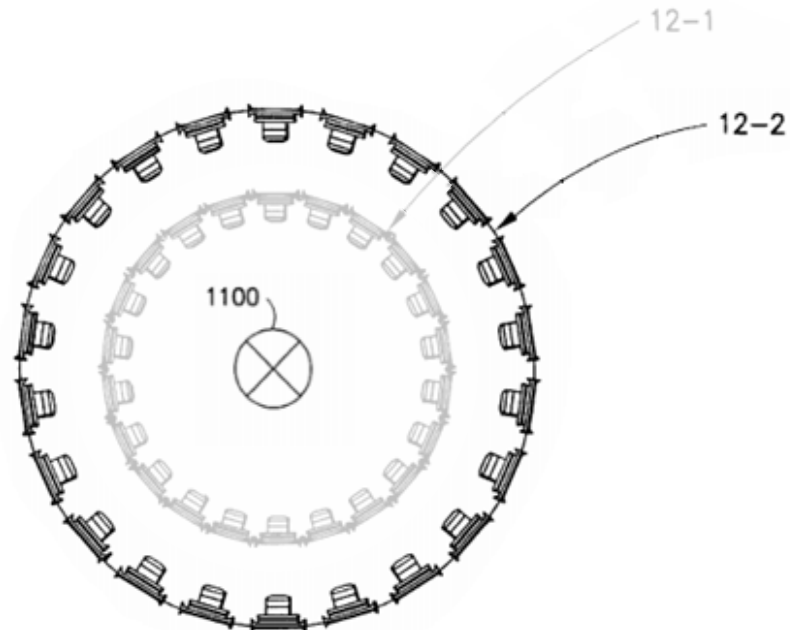


- Figure 11 depicts a time-lapse view of the embodiment to show the full extent of array of cameras 10.
 - *E.g.*, sub-array 12-1 remains part of array of cameras 10 even after it is removed after capturing images

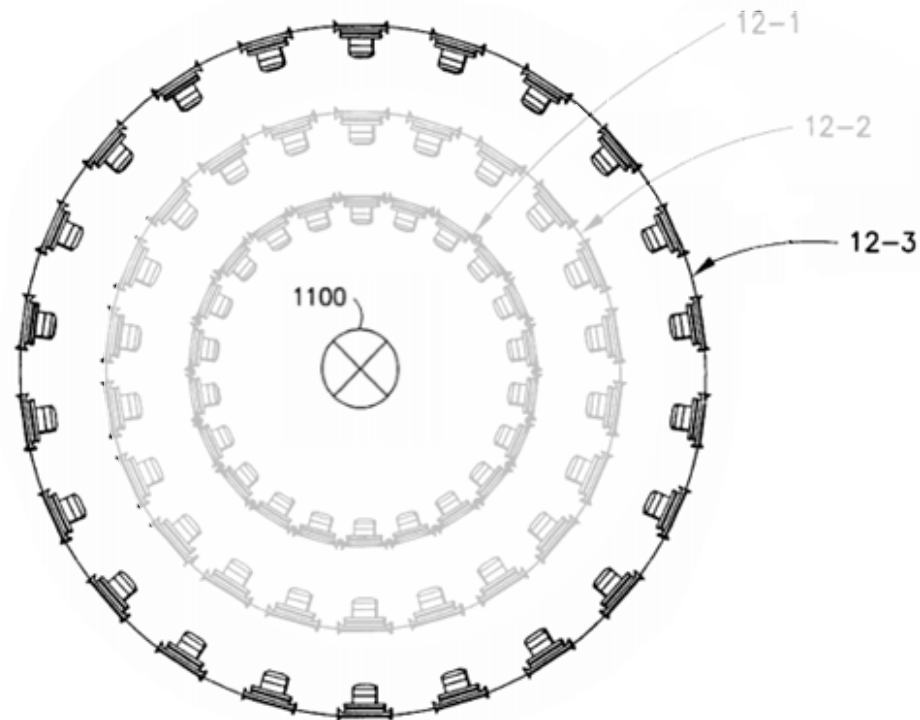
An Array of Cameras Can Be Formed Over Time by Moving Cameras



An Array of Cameras Can Be Formed Over Time by Moving Cameras



An Array of Cameras Can Be Formed Over Time by Moving Cameras



An Array of Cameras Can Be Formed Over Time by Moving Cameras

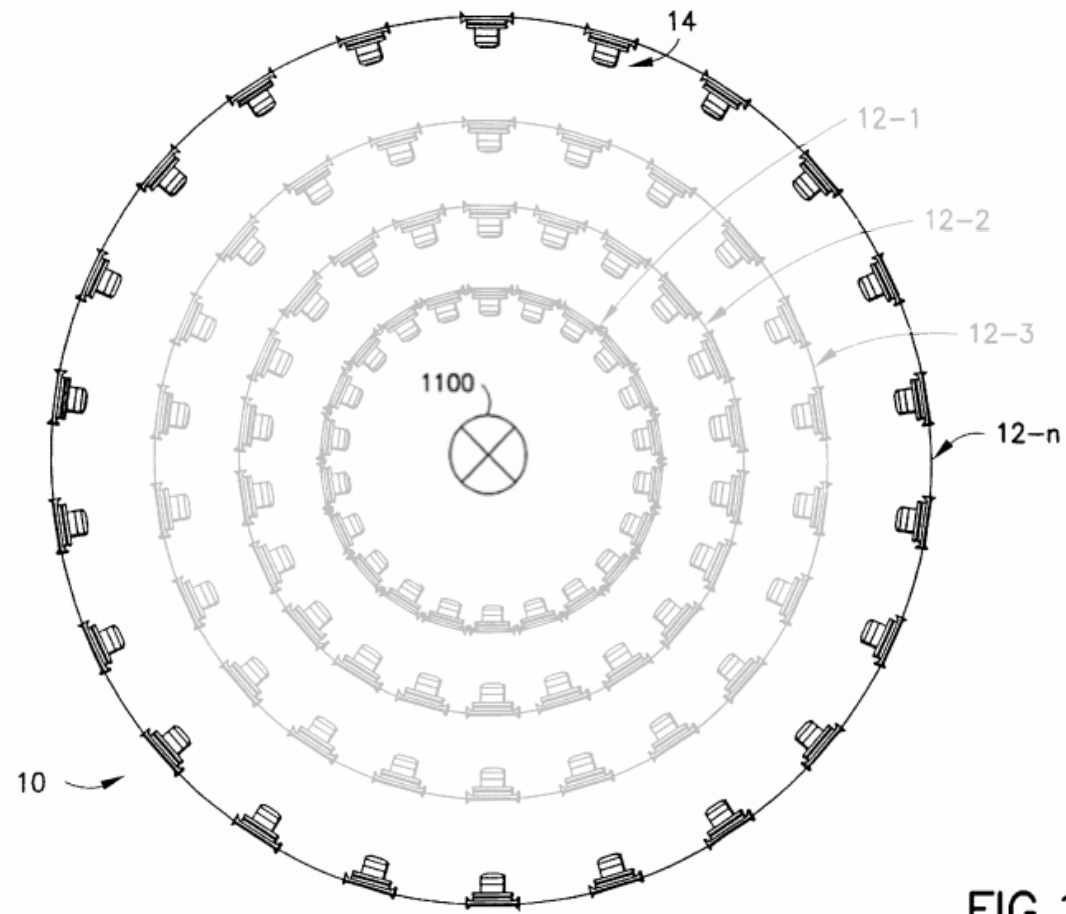


FIG.11

An Array of Cameras Can Be Formed Over Time by Moving Cameras

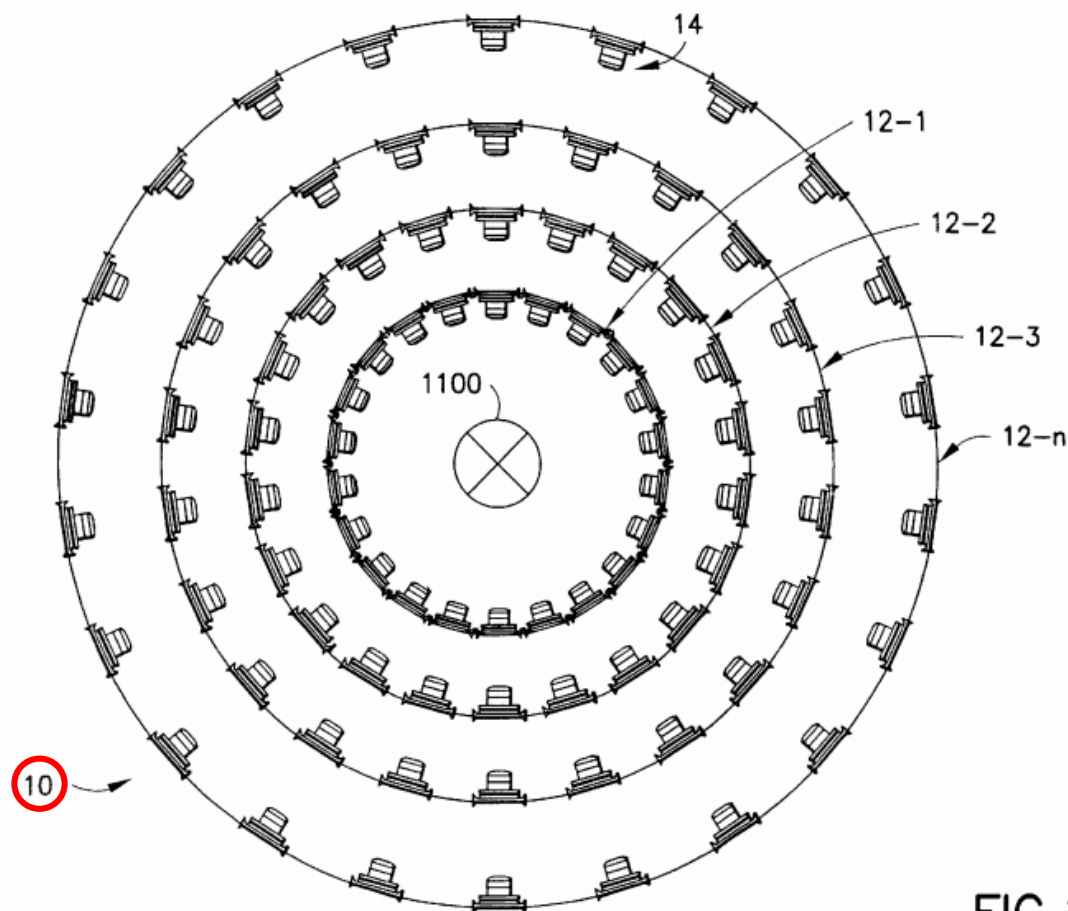


FIG.11

- Users navigate array of cameras 10 to “move forward and backward in an environment” by navigating between the images captured by the different sub-arrays that form array 10. ('325 Patent at 19:64-20:27)

Kewazinga's Proposed Construction is Supported by the Intrinsic Evidence

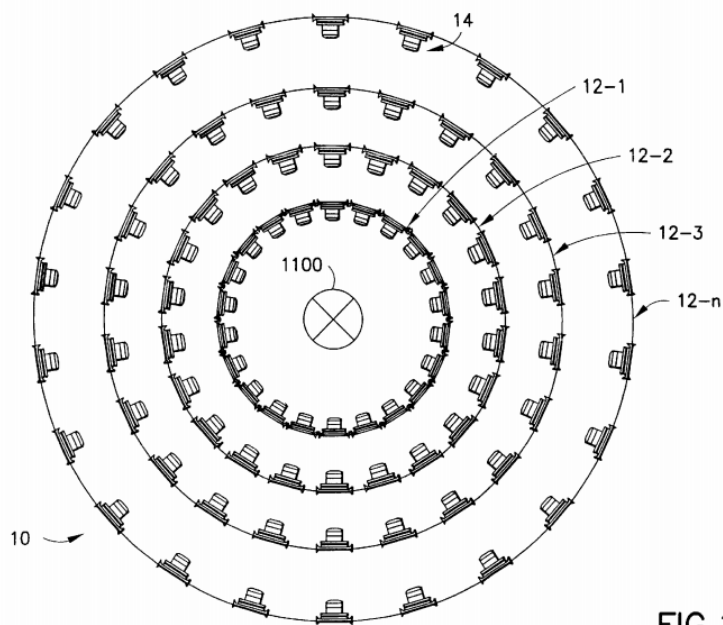


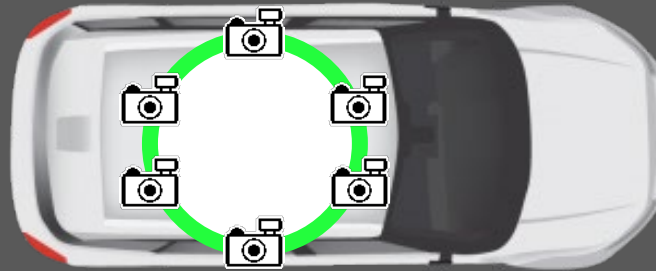
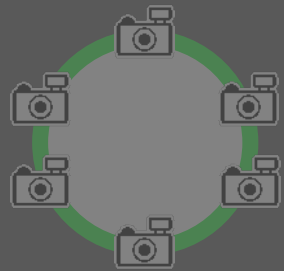
FIG. 11

- Figure 11 embodiment confirms key aspects regarding the scope of “array of cameras.”
 - Cameras in the array can be moved into position to capture images at different locations, at different times.
 - Cameras in the array need not be physically connected.
 - An array of cameras can comprise multiple sub-arrays.
 - All of the cameras in the array need not be positioned in the environment at the same time.
 - Locations of cameras in the array need not be known prior to beginning image capture.
 - There need not be exact or uniform distances between the cameras in the array.
 - The relationships between cameras in an earlier part of the array are not changed by moving cameras to form later parts of the array.
- Figure 11 embodiment shows that an array of cameras can be formed **over time** by moving cameras

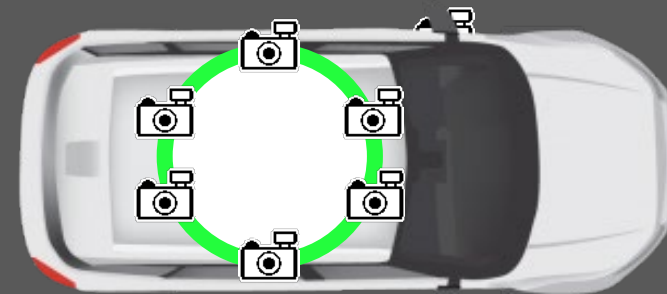
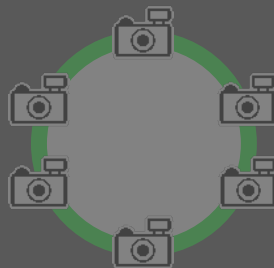
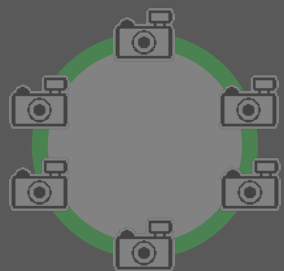
Google Street View is Remarkably Similar to the Figure 11 Embodiment



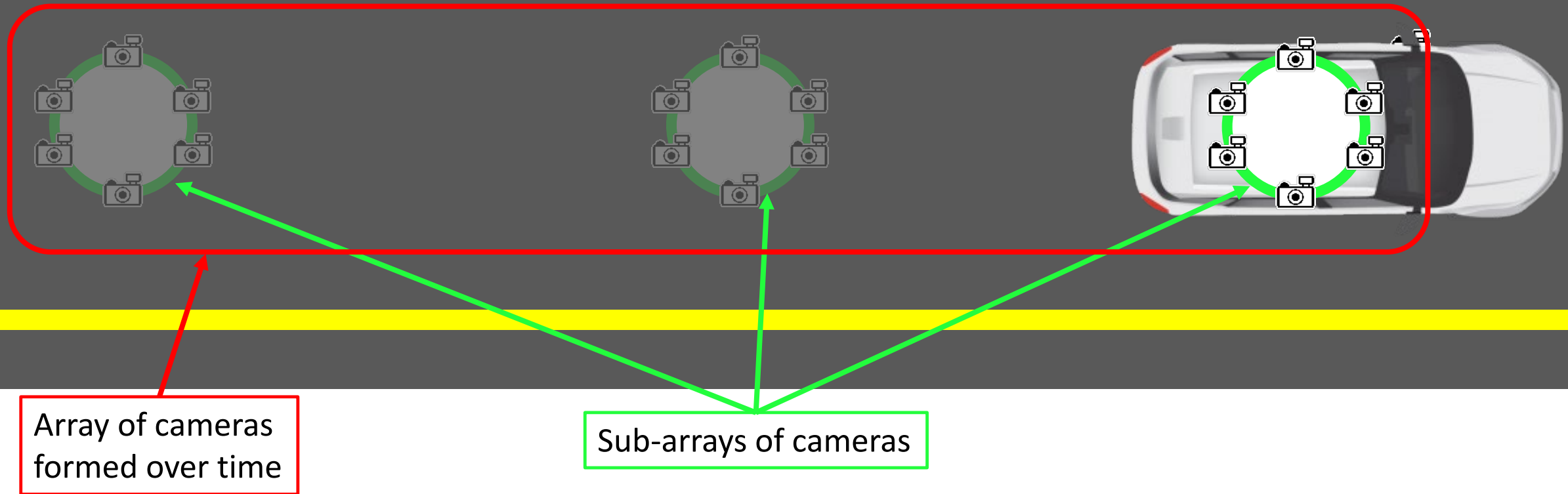
Google Street View is Remarkably Similar to the Figure 11 Embodiment



Google Street View is Remarkably Similar to the Figure 11 Embodiment



Google Street View is Remarkably Similar to the Figure 11 Embodiment



- Google moves cameras to different locations at different times to form an array of cameras over time.
- Street View users access images captured by that array of cameras to navigate through an environment.

Google Fails to Rebut the Figure 11 Embodiment

- Google does not dispute Kewazinga's and Dr. Lubin's explanation of the operation of the Figure 11 embodiment.
- Google provided no explanation of label 10 in Figure 11 in its claim construction brief.
- Google has no rebuttal to array of cameras 10 in Figure 11 comprising a collection of other arrays (12-1 to 12-n).

Google's Rebuttals Mischaracterize the Evidence

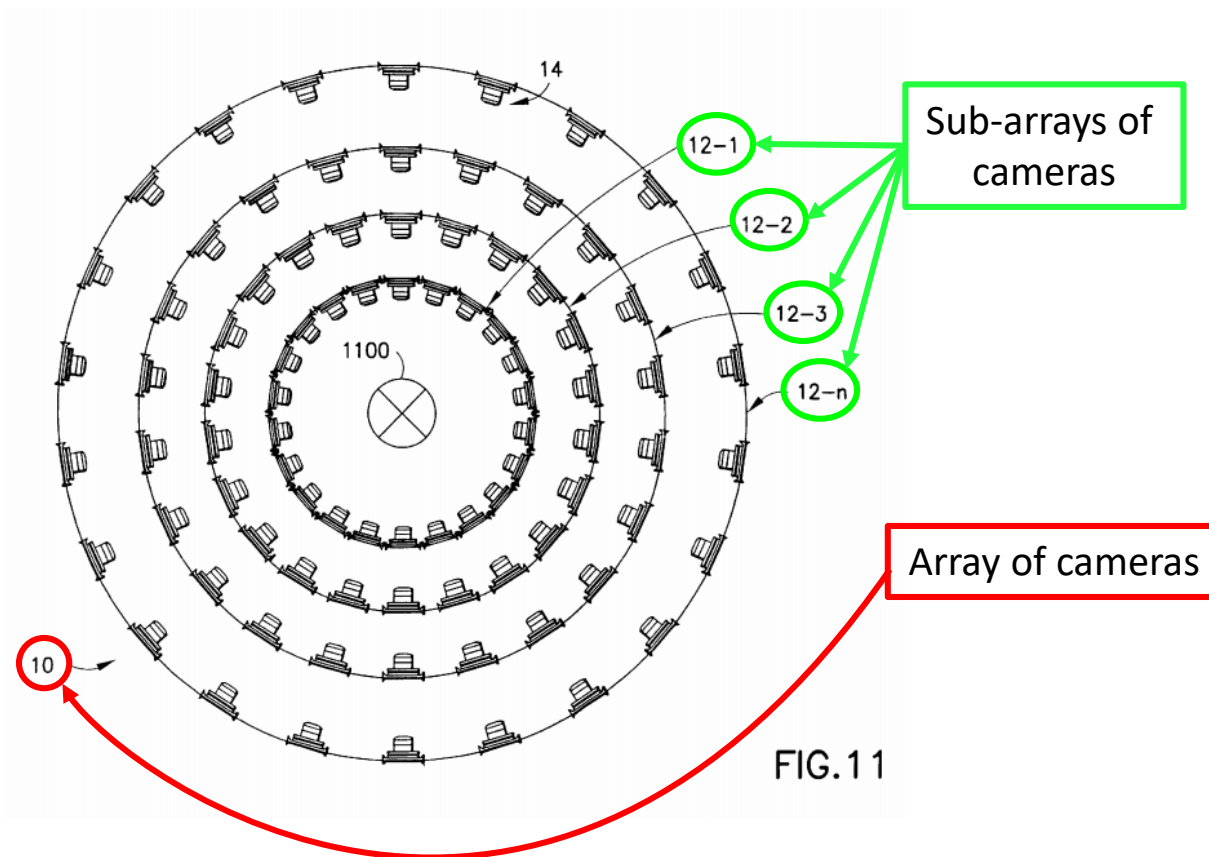
- Kewazinga's and Dr. Lubin's explanation is not a "convoluted theory."
 - The explanation is supported by extensive citation to the intrinsic evidence. (See D.I. 110-1 ¶¶ 26-28, 50; D.I. 110 at 5-8, 19-22)
 - The explanation is consistent with Kewazinga's 2006 communications to Google.

"Miniaturized systems mounted on vehicles and boats will ply the streets and waterways of cities and locales, giving armchair travelers the ability to experience the sights and sounds of live or prerecorded environments as though they were there. Kewazinga's telepresence technology will allow users to actually move through and around environments, not just zoom in from a fixed position."

(D.I. 96-6 at KEWAZINGA-G-0003022)

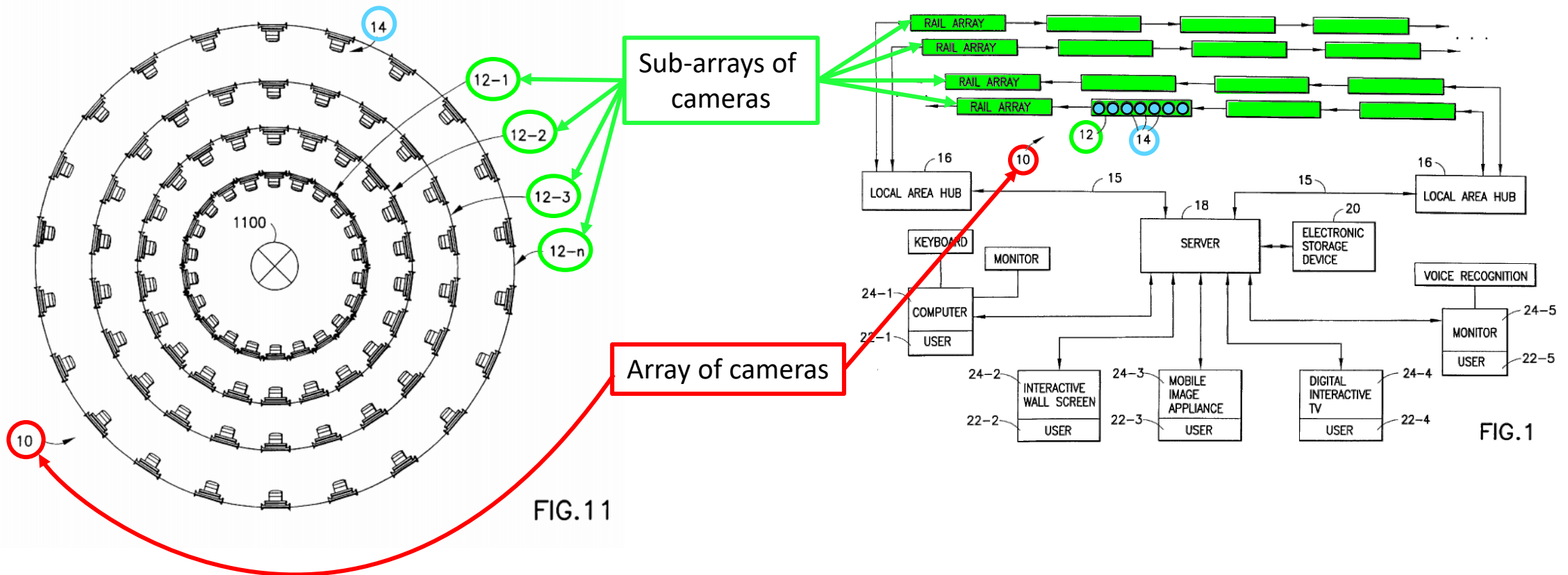
Google's Rebuttals Mischaracterize the Evidence

- The "Multiple Arrays" heading is consistent with Kewazinga's and Dr. Lubin's explanation.



Google's Rebuttals Mischaracterize the Evidence

- Google's criticism of the term "sub-array" is irrelevant.



Google Erroneously Disregards Figure 11

- A later patent in the same family as an earlier patent can be used to construe the claim terms of the earlier patent.
 - “The disclosure in the ‘639 patent is relevant for claim construction of the earlier ‘527 patent claim because the ‘639 patent was issued to the same inventors from a continuation-in-part of the ‘527 patent.” *Contech Stormwater Sols., Inc. v. Baysaver Techs., Inc.*, 310 F. App’x 404, 407 (Fed. Cir. 2009).
 - “[T]his court’s precedent takes a narrow view on when a related patent or its prosecution history is available to construe the claims of a patent at issue and draws a distinct line between **patents that have a familial relationship and those that do not.**” *Goldenberg v. Cytogen, Inc.*, 373 F.3d 1158, 1167 (Fed. Cir. 2004).
- The ‘325 Patent is based on and incorporates the ‘226 Patent.
 - The ‘226 Patent has Figure 1 and Figure 11 is described with “continuing reference to FIG. 1” (‘325 Patent at 18:64-19:1).
 - The ‘226 Patent also teaches that the array of cameras may be “secured to a moveable frame that can be wheeled into position in the environment.” (‘226 Patent at 7:29-34)

Figure 11 is Covered by Multiple Claims

- The Figure 11 embodiment is covered by multiple claims, not only claim 22 of the '325 Patent.
 - “Not every claim must contain every limitation or achieve every disclosed purpose.” *ScriptPro LLC v. Innovation Assocs., Inc.*, 833 F.3d 1336, 1342 (Fed. Cir. 2016).
- Claim 22 of the '325 Patent is directed to the sub-arrays (12-1 to 12-n) of the Figure 11 embodiment, which are also arrays of cameras.
- Claim 1 of the '325 Patent (among others) is directed to the array of cameras formed over time in the Figure 11 embodiment.
- Google provides no basis for limiting the relevance of Figure 11 to claim 22.

Google Misrepresents Dr. Lubin's Background

- Dr. Lubin has extensive educational and professional experience in the field at issue. (D.I. 110-1 ¶¶ 3-7; D.I. 110-5)
 - Ph.D. in Experimental Psychology -- specialization in human visual perception, including through computer modeling
 - Over 3 decades of experience in image and video processing at world-renowned research institution, SRI International (and predecessors David Sarnoff Research Center and Sarnoff Corporation)
 - Over 30 issued patents, including many directed to image processing
 - Development of computer vision algorithms for manufacturing inspection
- Dr. Lubin's testimony is reliable and helpful to the Court.

Google Misrepresents the Level of Skill in the Art and the Law

- Google misrepresents the level of skill of a POSITA in the *Microsoft* case. (D.I. 111 at 4)
 - “[I]t is my opinion that a person of ordinary skill in the art of the Asserted Patents at the time each was filed would have **[A]** bachelor’s degree in computer science, computer engineering or the equivalent, and 3-5 years of experience in the field of computer vision or image processing, or **[B]** a post-graduate degree in computer science, computer engineering or the equivalent, and 1-2 years of experience in the field of computer vision or image processing, or **[C] equivalent experience.**” (D.I. 112-3 ¶ 23)
- Google relies on inapposite case law involving a witness with “no experience whatsoever” and an “absence of any suggestion of relevant technical expertise.” *Sundance, Inc. v. DeMonte Fabricating Ltd.*, 550 F.3d 1356, 1361 (Fed. Cir. 2008).

Dr. Lubin Provided Expert Testimony Based on his Independent Analysis

- Dr. Lubin performed an independent review of the intrinsic evidence to come to his opinions. (D.I. 110-1 ¶¶ 10-12)

Q. So you did not put words on the page yourself, they were drafted by Kewazinga after conversations with counsel. And you spent probably about two hours reviewing the draft, is that fair?

MR. DESAI: Objection to form.

A. The words were put on the page after very extensive conversations between myself and counsel. So it was not like I was glancing over them in a cursory fashion. It was that we had already agreed on -- or I had already, you know, reviewed and made sure that we all, that they understood my position, and once that was clear in conversation, they made the draft and I reviewed it and signed it.

(Lubin Tr. at 15:12-16:5)

Q. Can you explain a little about the analysis you did to come to your opinions on what you believe is the proper claim construction for mosaicing and array of cameras?

MS. CHEN: Objection to form.

A. In both cases I started with the common usage of those terms and formed it from what I understood from my work in the field, and then went into the patents themselves and decided whether or not those were consistent with what I found in the patents.

(D.I. 113-2 at 255:8-20; *see also id.* at 255:21-258:2, 262:8-264:19.)

Q. Did you come up with your definition of "array of cameras" before or after you reviewed Figure 11?

MR. DESAI: Objection to form.

A. As I said all along I came up with the definition based on general knowledge of the term and then I made sure that it was consistent with these various figures and discussions.

And so, you know, that's how I will continue to answer that question.

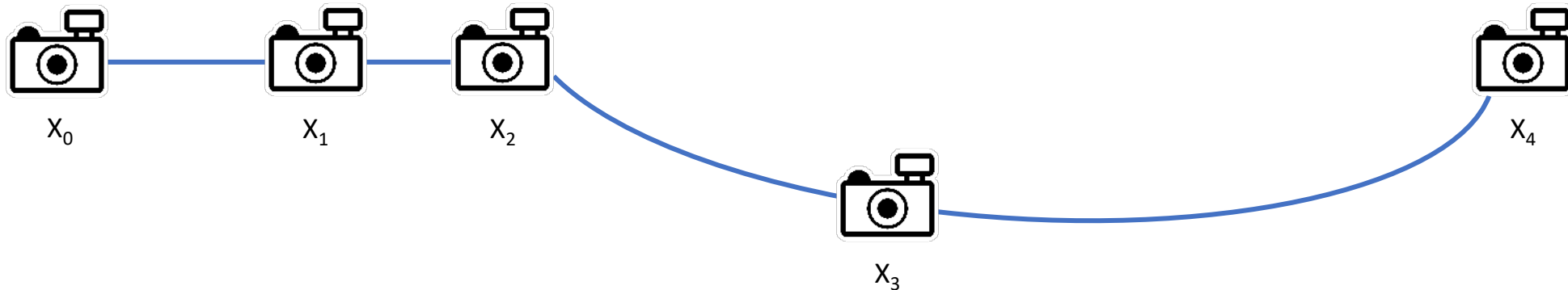
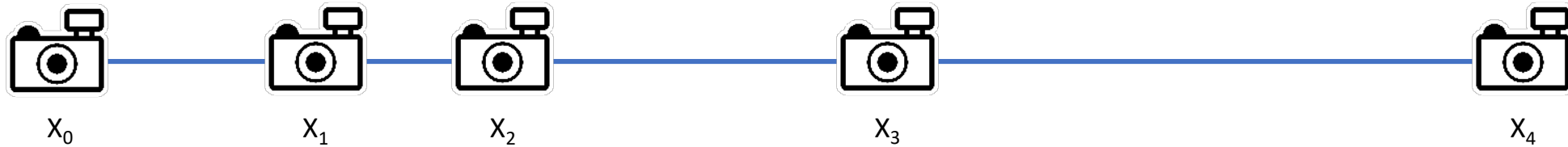
(Lubin Tr. at 150:13-23)

Courts Routinely Consider Expert Testimony on Claim Construction

- “[E]xpert testimony can be useful to a court for a variety of purposes, such as to [i] provide background on the technology at issue, [ii] to explain how an invention works, [iii] to ensure that the court's understanding of the technical aspects of the patent is consistent with that of a person of skill in the art, or [iv] to establish that a particular term in the patent or the prior art has a particular meaning in the pertinent field.” *Phillips*, 415 F.3d at 1318.
- “Jones also complains that the district court improperly relied on extrinsic evidence, including the **expert testimony** from an engineer at a corporation defending infringement allegations in another case involving the same patents. **While the district court did consider that extrinsic evidence, district judges are free to do so ‘to help the court come to the proper understanding of the claims.’**” *Riverwood Int’l Corp. v. R.A. Jones & Co.*, 324 F.3d 1346, 1358 (Fed. Cir. 2003).

Kewazinga's Proposed Construction is Consistent with the *Microsoft* Court's Opinion

- Kewazinga's proposed construction does not permit moving cameras within an existing array to change the geometric relationship between them.



Kewazinga's Proposed Construction is Consistent with the *Microsoft* Court's Opinion

“On the other hand, Plaintiff’s contention that the cameras can be moved or reused also goes too far and lacks intrinsic support. A careful review of the various configurations of ‘arrays of cameras’ contemplated in the Asserted Patents provided reveals that there is not one single example in the intrinsic evidence of an array of cameras in which the cameras are not fixed relative to each other. **As discussed above, the cameras are carefully deployed to create the necessary fields of view.** Were that not the case, a user, let alone multiple independent users, might not be able to navigate through the environment utilizing the array. **Accordingly, a POSITA would understand that cameras that did not have ‘fixed’ fields of view relative to the other cameras in the array would be contrary to the teachings of the '325 and '226 Patents.** In this context, Plaintiff’s contention that cameras can be moved or reused is troubling. **Moving a camera, without moving the entire array, would change its geometric relationship with the other cameras within the array,** which, as explained above, would create a new array. Accordingly, the Court rejects Plaintiff’s contention that a camera **within an array** can be moved and still constitute the same array as it is divorced from the intrinsic evidence.” *Kewazinga*, 2019 WL 3423352, at *18.

Cameras in an array are “deployed” to create the fields of view necessary for navigation along paths.

Cameras **within the array** have fixed “fields of view” relative to one another to permit navigation.

Moving cameras **within an existing array** would change the geometric relationship between cameras **in that array**, resulting in a new array.

- Moving cameras to **form** an array does not change (i) the “fields of view relative to the other cameras in the array” or (ii) the “geometric relationship with the other cameras within the array”
- **Creating** a navigation path is different from changing an existing navigation path.

Kewazinga's Proposed Construction is Consistent with the *Microsoft* Court's Opinion

"Consistent with every instance in which the term 'array of cameras' is used in the Asserted Patents, each array contains cameras in fixed in relation to each other. **The supplemental arrays, containing cameras in different geometric relationships with each other than in the initial array, are described as distinct from the first array and each other (i.e. array 12-1, array 12-2, array 12-n+1). From this, a POSITA would understand that the supplemental arrays are distinct and separate arrays because their constituent cameras do not have the same fixed geometric relationship as the cameras in the other arrays.** This is the case even if after the removal of array 12-1, as pictured in Figure 11, the same cameras which were used in array 12-1 were repurposed to create array 12-2. Even in the event that arrays 12-1 and 12-2 utilized the same physical cameras, **the geometric relationship between the cameras in arrays 12-1 and 12-2 are different, and so a POSITA would understand them to be different arrays.**¹⁸

FN 18: The '325 Patent also teaches a system in which an array could be comprised of 'a plurality of rings' bearing cameras. However, even in that example, the cameras must still be fixed in relation to each other. **A POSITA would not understand that an 'array of cameras' must comprise a single structure, be it ring or rail, but would understand that whatever its form, the constituent cameras must be fixed in relation to each other."** *Kewazinga*, 2019 WL 3423352, at *17 (internal citations omitted).

- The *Microsoft* court is not addressing whether array of cameras 10 in Figure 11 is created over time.

The *Microsoft* court explained each array 12-1 to 12-n in Figure 11 is a distinct and separate array because the cameras in those arrays have different geometric relationships between them.

Google omits language showing that the *Microsoft* court is not addressing array of cameras 10 being formed over time.

Google omits the *Microsoft* court's explanation that an array of cameras need not comprise a single structure, which is consistent with Kewazinga's proposed construction.

The Asserted Patents Do Not Criticize Moving Cameras to Create an Array Over Time

- Google misrepresents language in the Asserted Patents.
 - “In order for the user’s view to move through the venue or environment, a moving vehicle carries the cameras. This system, however, has several drawbacks. For example, in order for a viewer’s perspective to move through the venue, **the moving vehicle must be actuated and controlled. In this regard, operation of the system is complicated.**” (’325 Patent at 2:12-18)
- The PTAB rejected this same argument, directly addressing the same language.
 - “The 2006 Application refers to ‘several drawbacks’ of the system described in the ’469 patent, including that ‘in order for a viewer’s perspective to move through the venue, **the moving vehicle must be actuated and controlled’ and that, ‘[i]n this regard, operation of the system is complicated.’** Ex. 1003, 10–11. **The 2006 Application thus criticized the moving camera system for requiring viewer control of the camera system’s movement for navigation through an environment.** *Id.* Thus, we are not persuaded that the 2006 Application excluded from the invention all systems with moving cameras. Rather, we agree with Patent Owner, on the current record, that the 2006 Application identified a more limited drawback of a moving camera system that required complicated user operation.” (D.I. 110-17 at 13-14)

Kewazinga's Proposed Construction is Not Indefinite

- “Definiteness does not require that a potential infringer be able to determine *ex ante* if a particular act infringes the claims.” *Nevro Corp. v. Bos. Sci. Corp.*, 955 F.3d 35, 40 (Fed. Cir. 2020).
- “The test for indefiniteness is not whether infringement of the claim must be determined on a case-by-case basis.” *Id.* at 39.
- Google’s questions are not probative of the issue of indefiniteness of the claim taken as a whole.
 - Indefiniteness is an inquiry of whether a “patent’s claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 910 (2014).
- Google provides no expert testimony in support of its argument.

Google's "Fixed in Relation to Each Other" Proposal is Ambiguous

- Jurors may incorrectly interpret Google's proposal in ways that are explicitly refuted by the intrinsic evidence and that improperly exclude disclosed embodiments:
 - Requirement for cameras in an array to be fixed to each other or stationary
 - Requirement for the relationship between cameras in an array to be predetermined or known prior to image capture
 - Requirement for exact or uniform distances between the cameras in an array
- "[T]here is a strong presumption against a claim construction that excludes a disclosed embodiment." *In re Katz Interactive Call Processing Patent Litig.*, 639 F.3d 1303, 1324 (Fed. Cir. 2011).
- "Claim construction is a matter of resolution of disputed meanings and technical scope, to **clarify** and when necessary to **explain what the patentee covered by the claims**, for use in the determination of infringement." *U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997).
- Although Google is proposing the *Microsoft* court's construction, Kewazinga did not have the opportunity to explain these ambiguities in that case.

“Fixed in Relation to Each Other” Does Not Require Cameras in an Array be Fixed to Each Other or Stationary

- The *Microsoft* court found that the cameras need not be stationary.
 - “[Microsoft’s] **proposed limitation—that the cameras be fixed at specific locations—goes too far**, and is contradicted by the intrinsic evidence. ... [Microsoft’s] proposed requirement **that each camera must be fixed at a specific location is inconsistent with wheeling the array into position, or removing the array** after it captures its images, both of which are taught.” *Kewazinga*, 2019 WL 3423352, at *18.
- The PTAB found that the cameras need not be stationary.
 - A priority application with virtually the same specification as the ‘325 Patent “expressly contemplates alternatives—**using structures that include moving cameras to capture images**, not only an ‘array of fixed-position cameras.’” (D.I. 110-17 at 15; *see also id.* at 14, 16)
- Intrinsic evidence (*e.g.*, embodiments of Figures 1, 3, and 11) show cameras need not be fixed to each other.

“Fixed in Relation to Each Other” Does Not Require Predetermined Relationships Between Cameras in an Array

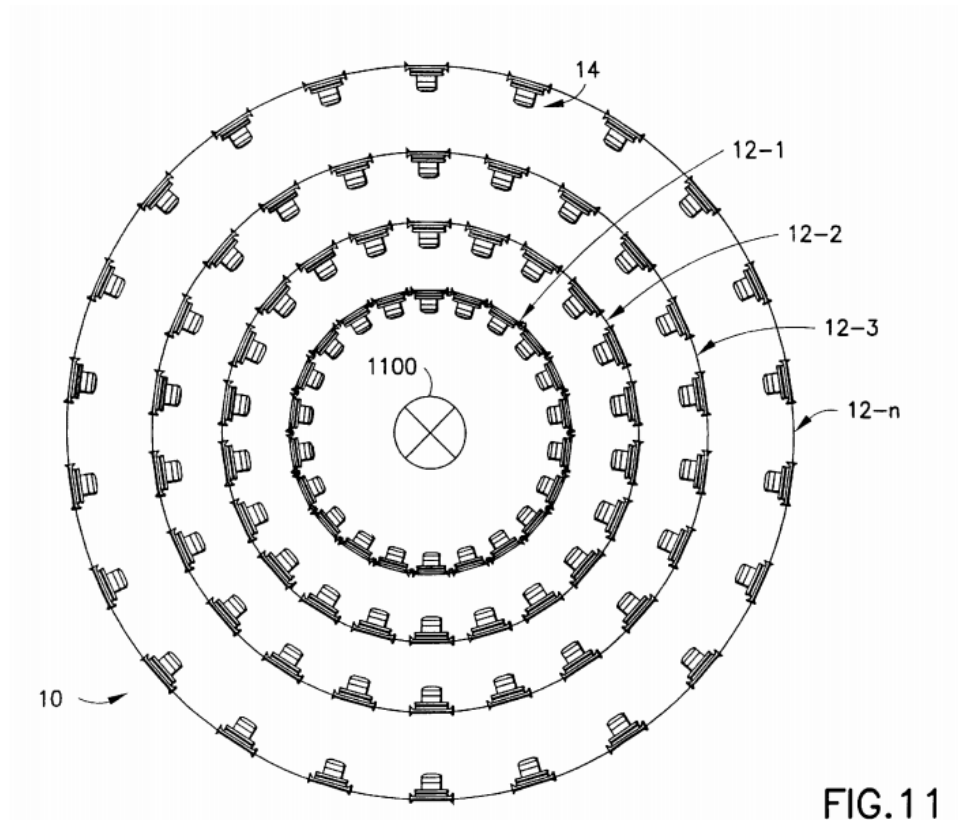


FIG. 11

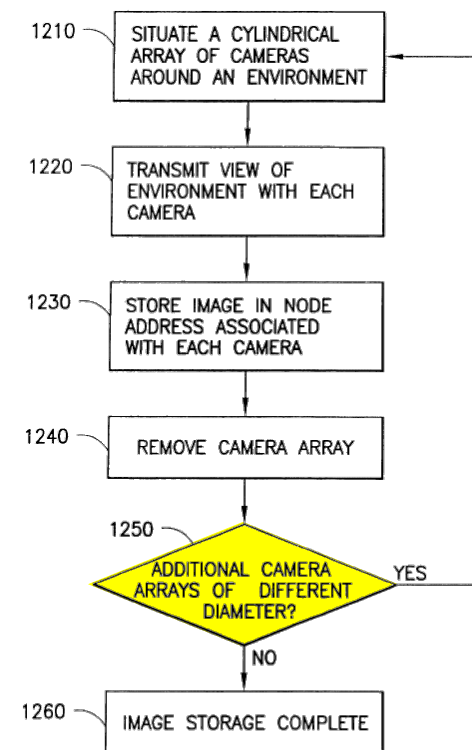
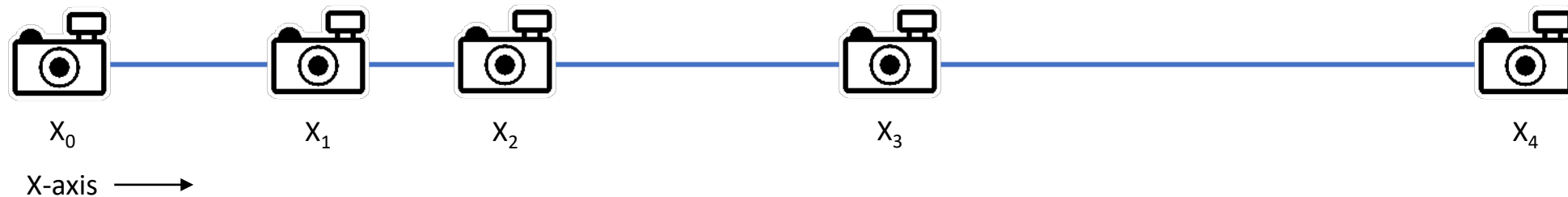


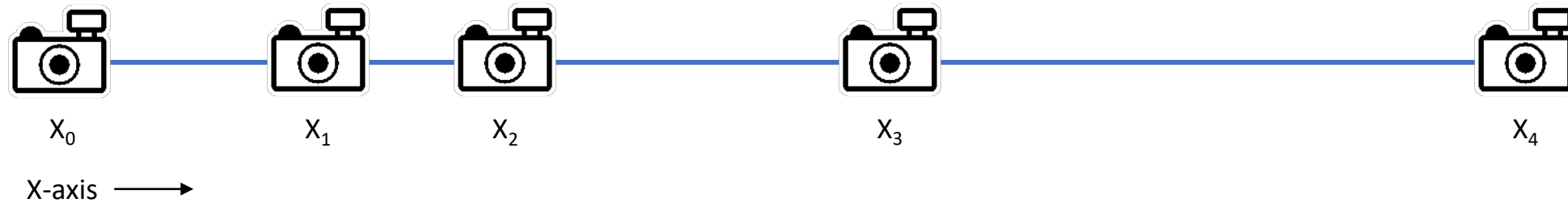
FIG. 12

“Fixed in Relation to Each Other” Does Not Require Exact or Uniform Distances Between Cameras in an Array

- “[V]irtually any configuration of rails 12 and cameras 14 is within the scope of the present invention.” (‘325 Patent at 7:32-34)
- The Asserted Patents describe relationships between cameras in an array that are not based on exact or uniform spatial distances.
 - “In the present embodiment, the **camera array 10** is conceptualized as being in an X, Z coordinate system. This allows **each camera to have an associated, unique node address comprising an X, and Z coordinate (X, Z)**. In the present embodiment, for example, a coordinate value corresponding to an axis of a particular camera represents **the number of camera positions along that axis the particular camera is displaced from a reference camera.**” (‘325 Patent at 5:1-18; *see also id.* at 19:19-26)
- Mosaicing does not require exact or uniform distances between cameras. D.I. 110-1 ¶ 35; D.I. 112-4 at 231:4-24



The Known Relationships Between the Cameras in an Array Permit Navigation and Mosaicing



- Once the array of cameras is formed, the known relationship between the camera locations permits (i) users to navigate and (ii) the processing of captured images, including mosaicing. (D.I. 110-1 ¶¶ 35, 52-53; D.I. 112-4 at 231:4-24)
- The *Microsoft* court’s use of the phrase “fixed in relation to each other” was directed to these known relationships between the cameras in an array.
 - “The fixed geometric relationship between the cameras in the array is central to the use of the array—indeed **that geometric relationship is how a path through the array of cameras can be defined.**” *Kewazinga*, 2019 WL 3423352, at *16.
 - “Fixing the cameras [] in relation to each other allows for the creation of progressively different perspectives, which can be ‘mosaiced,’ ‘tweened’ or otherwise mixed or processed **to allow a user to navigate images of the environment** captured by the array.” *Kewazinga*, 2019 WL 3423352, at *17.

Reusing Cameras to Form an Array is Within the Scope of the Claims

- “**The specification need not describe every embodiment** of the claimed invention and **the claims should not be confined to the disclosed embodiments**—even when the specification discloses only one embodiment.” *Woods*, 692 F.3d at 1283.
- “The patentee is free to choose a broad term and expect to obtain the **full scope of its plain and ordinary meaning unless [i] the patentee explicitly redefines** the term or **[ii] disavows its full scope.**” *Thorner*, 669 F.3d at 1367.
- “To constitute disclaimer, there must be a **clear and unmistakable disclaimer.**” *Id.* at 1366-67.

Reusing Cameras to Form an Array is Within the Scope of the Claims

- A POSITA would understand that moving and reusing cameras to form an array is within the scope of the claims.
 - “[A]rray 10 can be secured to a moveable frame that can be wheeled into position in the environment.” (‘325 Patent at 7:41-45)
 - Embodiment of Figures 11 and 12
 - User navigation of stored imagery is the same regardless of whether cameras are reused. (‘325 Patent at 19:64-67)
 - “And the Burt Patent teaches a process for the creation of ‘mosaic imagery’ **without imposing any specific requirements on the methods by which the images to be processed were captured** or generated. The natural consequence of that element of the intrinsic evidence is that a **POSITA would not understand the term[] ‘mosaicing’ ... to inherently require that the images to be processed were captured ... by different cameras.**” *Kewazinga*, 2019 WL 3423352, at *11.
 - Dr. Lubin explained that mosaicing can be performed on images captured by the same camera. (D.I. 110-1 ¶ 35)
 - “Well, one thing is that once you have received an image from a camera at a particular location, then that array index or that camera in that position must remain fixed. **But if you wanted to reuse a camera to populate a different array position, that’s what I mean by moving a camera over time.**” (Lubin Tr. at 68:23-69:12)

Claim Construction Hearing

- Claim Terms at Issue
- Law on Claim Construction
- Background on Asserted Patents
- “Array of Cameras”
- “Mosaicing”

Google Adds Two Erroneous Limitations to Mosaicing

| | Kewazinga's Proposed Construction | Google's Proposed Construction |
|---|---|---|
| mosaicing (‘325 Patent, claims 1, 5, 6) | <i>creating imagery assembled from a plurality of images, or portions thereof, including an alignment process and a composition process</i> | <i>creating imagery assembled from a plurality of camera outputs, or portions thereof, including an alignment process and a composition process to achieve a seamless combination of the camera outputs</i> |

Mosaicing is Not Limited to Camera Outputs

- There is no dispute that the ordinary meaning of mosaicing is not limited to camera outputs.
- The intrinsic evidence explicitly describes mosaicing “additional source outputs” that are not camera outputs.
 - The ‘325 Patent claims recite “mosaicing the camera output and the additional source output,” which can include “computer graphic imagery, virtual world imagery, applets, film clips, and animation.” (‘325 Patent, claims 2 and 3)
 - “The system may present the **additional source output, alone or in combination with the camera output, for example, by mosaicing**, mixing, layering or multiplexing it.” (‘234 Patent at 12:47-49)

Mosaicing is Not Limited to Camera Outputs

- The claims recite limitations directed to camera outputs separately from those directed to mosaicing.
 - “interpret received first user inputs and select **outputs of cameras** in the first path, mix the **outputs of cameras** in the first path in accordance with the received first user inputs by sequentially **mosaicing** the selected **outputs of cameras** in the first path” (‘325 Patent, claim 1)
- “[T]he claim in this case refers to ‘steel baffles,’ which strongly implies that the term ‘baffles’ does not inherently mean objects made of steel.” *Phillips*, 415 F.3d at 1314.

Mosaicing Does Not Require Efforts to Make the Mosaic Seamless

- There is no dispute that the ordinary meaning of mosaicing does not require additional image processing to make the mosaic seamless.
- A mosaic exists and mosaicing has occurred regardless of whether (i) the mosaic is seamless or (ii) attempts are made to make the mosaic seamless.
 - Dr. Lubin explained this and Google offered no contrary expert testimony. (D.I. 110-1 ¶ 44)
 - “After processing, the **individual images are combined to form a mosaic**, i.e., an image that contains a plurality of individual images. **Additional image processing is performed on the mosaic to ensure that the seams between the images are invisible** such that the mosaic looks like a single large image.” (Burt Patent at 1:20-25)
 - Quoting this language, the *Microsoft* court found that the “Burt Patent makes clear that a mosaic can be formed even if that mosaic is not perfectly seamless.” *Kewazinga*, 2019 WL 3423352, at *8.

Mosaicing Does Not Require Efforts to Make the Mosaic Seamless

- The Asserted Patents do not disavow the full scope of mosaicing.
 - The Asserted Patents criticize prior art in which “changing camera views results in a discontinuous image,” referring to the effect of jumping between views as opposed to smooth transitions. (‘325 Patent at 2:14-20)
 - That criticism of the prior art has nothing specifically to do with mosaicing.
 - The ‘226 patent includes the same language but does not claim or mention mosaicing. (‘226 Patent at 2:5-16)
- Google conflates (i) seamless navigation and (ii) seamless mosaics.
 - Seamless navigation in the Asserted Patents is about providing users with smooth transitions during navigation through an environment, not whether mosaics may have seams in them.
 - “[I]mage output mixing, such as mosaicing and tweening, effectuates seamless motion throughout the environment.” (‘325 Patent at 4:41-43)

Mosaicing Does Not Require Efforts to Make the Mosaic Seamless

- Contrary to Google's assertion, Kewazinga's proposed construction does not lead to nonsensical results.
 - Google ignores the alignment process and composition process.
 - Google ignores other claim language (e.g., progressively different perspectives)
- Google misrepresents Dr. Lubin's explanation that there is no one particular relationship between images that is necessary for mosaicing.

Q. I am trying to understand what images have the potential to be mosaic together and whether those images must be contiguous or whether they must overlap. Do you have an opinion on that?

MR. DESAI: Object to the form.

Asked and answered.

A. I already answered that question. There is no requirement. And I believe I just said that, there is no requirement that they be in any particular relationship to each other.

You know, there is no requirement that they overlap a certain amount or at all or they can overlap completely or a little bit, or they could be edge to edge or they could have some distance between them. As long as you have a way of determining, you have a known relation between those views, then you can do mosaicing.

(D.I. 112-4 at 231:4-24)